

Subject: MSD Colloquium, Thurs, Nov. 9, 11am, 200, Auditorium
From: Janice Coble <coble@anl.gov>
Date: Thu, 26 Oct 2006 08:49:36 -0500
To: msd@anl.gov

SPEAKER: PROF. ROBERT I. SHEKHTER
University of Gothenburg
SWEDEN

TITLE: “Spin-Dependent Tunneling in
Coulomb Blockade Structures”

DATE: Thursday, November 9, 2006

TIME: 11:00 a.m.

PLACE: Building 200, AUDITORIUM

HOST: Valerii Vinokur

Refreshments will be available at 10:45 a.m.

Abstract: The possibility to place transition-metal atoms or ions inside organic molecules introduces a new “magnetic” degree of freedom in molecular electronics that allows the electronic spins to be coupled to mechanical and charge degrees of freedom. By manipulating the interaction between the spin and external magnetic fields and/or the internal interaction in magnetic materials, spin-controlled nanoelectromechanics may be achieved. In this talk a review of recent achievements on spin-dependent tunneling in Coulomb blockade structures will be given. A special attention will be played on interplay between Coulomb correlation and spin dynamics of tunneling electrons. Both electric transport and noise properties will be considered.